

Report on Water Treatment System and Municipal Water for Ridgefield, Washington: Capacity, Demand, and Planning in a Period of Shortage

Executive Summary

Ridgefield, Washington, is facing a water problem due to a declared regional dry spell, fast growth in its population, and the city's own efforts to manage and save water. While Ridgefield's city water is always very good, better than state and federal rules¹, the feeling of a water shortage comes from how much water is available and when, compared to how much is needed. This report looks at these points, explaining the city's water cleaning system, its water sources, and the plans and checks put in place for long-term water safety. The main points show that the city uses water from the ground, and with many more people and changing weather, it needs to keep building new systems and managing how much water people use. New projects, like the Eastside Elevated Water Reservoir, are key parts of Ridgefield's promise to give its growing community safe and steady water.

1. Introduction: Understanding Ridgefield's Water Story

1.1 Why Ridgefield, WA, Seems to Have Less Water

It might seem strange that Ridgefield, Washington, has a water shortage, as this part of the country is known for having a lot of water. But this is not a puzzle; it shows how nature and the number of people living here work together. Ridgefield's city water is always clean and safe, better than what state and federal rules ask for.¹ The current issues are about

how much water there is and keeping a good balance between what is ready to use and what is needed. This problem is made worse by local weather patterns, which affect how much water is naturally there, and by the city's very fast growth. So, the idea of a shortage comes from not seeing how daily weather differs from the bigger, long-term water facts.

1.2 What This Report Will Cover

This report aims to give a full look at Ridgefield's water cleaning system, its city water sources, and the plans and checks the city has put in place. It will closely look at how the system's built size compares to the growing need for water. Later parts will talk about the dry spell in the area, show details of the local water system, explain what drives water demand, describe the city's main plans, and offer thoughts on Ridgefield's future water safety.

2. Current Water Situation: Dry Weather and Area Conditions

2.1 Washington State Says There's a Drought (June 2025)

Ridgefield's water supply is closely tied to how water moves in the wider area. On June 5, 2025, the Washington State Department of Ecology (Ecology) said there was a Drought Emergency for 19 river areas, including parts of Clark County, where Ridgefield is located.⁵ This official statement means that water levels are, or are expected to be, less than 75 percent of the usual amount, which could cause real problems because there isn't enough water.⁵

Ecology, as the state's main group for water supplies, carefully watches many sources of information to know how much water is available now and in the future. These sources include rain and other wet weather, water levels in the ground (aquifers), water in rivers and streams, and, very importantly, snow on the mountains.⁵ Snow on mountains acts like a natural water store, slowly letting out water during spring and summer, which is key for having enough water in the drier months.⁵ As of June 9, 2025, the amount of snow across the state was only 49% of normal, a 12% drop from the week before. At the same time, the amount of rain for the year so far was 84% of normal, a 2% drop from the week before.⁵ While the weather forecast for June 17-23, 2025, showed a small chance of more rain than usual across the state, this short-term outlook does little to help the bigger, long-term lack of water.⁵

2.2 Clark County's Own Dry Status and Rain Patterns

The dry weather in the area directly affects Ridgefield. The U.S. Drought Monitor

shows that all people in Clark County are now in D1 (Moderate Drought) status.⁶ This means the area is in the first stage of a dry spell, which often causes some harm to crops and fields, and water shortages start to appear.⁶

Past rain data further shows how serious the situation is in Clark County. May 2025 was the 39th driest May in the last 131 years, with 1.04 inches less rain than normal.⁶ Looking at the time from January to May 2025, it was the 20th driest in the last 131 years, with a big drop of 6.75 inches from normal rain levels.⁶ These numbers show a long time of dry weather that is causing the current water stress.

2.3 Key Signs: Snow, Rain, and Ground Water Levels

The signs mentioned above—snow on mountains, rain, and water levels in the ground—are basic to knowing how much water is available. The state's checks on these things give a full picture of the water budget.⁵ Beyond today's conditions, a wider look at the climate helps understand the current situation. The 2021 Columbia River Basin Long-term Water Supply and Demand Forecast, a joint work by Ecology, Washington State University, and the Washington Water Research Center, points out that having enough water for all needs is at risk due to expected changes in climate and population growth.⁷

A key finding from this forecast is that surface water supplies are now coming earlier in the year, especially in areas where snowmelt is the main source, like the Cascades.⁷ This means that the natural "water store" effect of snow on mountains, where water slowly comes out during spring and summer, is changing. This could lead to water flowing out faster earlier and less water being available later in the dry season. Importantly, the forecast also points to lower ground water levels in most water layers and areas across Eastern Washington.⁷ This trend is very important for Ridgefield, as the city mostly uses ground water from the Troutdale aquifer for its main water supply.¹

The user's first confusion about the water shortage, even though the Pacific Northwest seems to have a lot of water, can be made clear by looking at these basic water facts. The declared dry spell, along with less rain in the past and less snow on mountains, points to a general lack of water that is not always clear from daily weather. Even if some rain falls, the total water amount, which relies heavily on slow melting mountain snow and the refilling of deep ground water stores, is clearly below

normal.⁵ This situation is not just a local oddity but a direct result of bigger environmental and weather trends affecting the total water supply.

Also, state groups are actively looking ahead and planning for future water supply risks due to climate change and population growth. The Department of Ecology's full checks of different data sources and the making of long-term forecasts, like the Columbia River Basin Long-term Water Supply and Demand Forecast, show a forward-thinking approach.⁵ The Water Supply Availability Committee, which gives advice to Ecology on water supply conditions, further shows a planned, future-focused way to manage water.⁵ This means that experts expected the current water supply problems, and they are results of bigger trends, leading to state-level guidance and help for cities like Ridgefield.

The city's strong reliance on the Troutdale aquifer for its main water source makes it especially open to the area's trend of lower ground water levels, as seen in the Columbia River Basin forecast.¹ This dependence shows a big long-term problem that goes beyond just how much water can be pumped now. Even if surface water conditions get better for a season, the ground water source, which refills much more slowly, remains a key weak point and a main factor in the city's long-term water safety.

Table 1: Washington State and Clark County Drought Status (June 2025)

<u>Indicator</u>	<u>Value (June 2025)</u>
Washington State Drought Emergency Declaration Date	June 5, 2025
Number of Watersheds Declared in Drought	19 (out of 62)
Statewide Snowpack (% of normal)	49% (down 12% from previous week)
Statewide Water Year-to-Date Precipitation (% of normal)	84% (down 2% from previous week)
Clark County Drought Monitor Status	D1 (Moderate Drought)
Percentage of Clark County Population Affected by Drought	100%
Clark County May 2025 Precipitation (Rank)	39th driest in 131 years

<u>Indicator</u>	<u>Value (June 2025)</u>
Clark County May 2025 Precipitation (Decrease from normal)	1.04 inches
Clark County Year-to-Date (Jan-May 2025) Precipitation (Rank)	20th driest in 131 years
Clark County Year-to-Date (Jan-May 2025) Precipitation (Decrease from normal)	6.75 inches

3. Ridgefield's City Water System: Pipes and Sources

3.1 Main Water Sources: Ground Water Wells and the Troutdale Aquifer

Ridgefield's city water mostly comes from water deep in the ground. The city has six working wells: Well Nos. 7, 8, 9, 10, and 11 are at Abrams Park, and the sixth, called the Junction Well, is on S 56th Place.¹ These wells pull water from the Troutdale aquifer, an underground rock layer that holds water, found about 130 to 170 feet below the ground.¹ Together, these wells can produce a lot of water, more than 2 million gallons each day (MGD).¹

The city's main use of ground water from the Troutdale aquifer means its water safety depends directly on how healthy and how fast this underground source refills.¹ This reliance makes Ridgefield open to lower ground water levels in the area, a trend seen in the Columbia River Basin forecast.⁷ While the current amount of water the wells can produce seems strong, its long-term use is tied to the aquifer's ability to fill up again, which can be a slow process, especially during long dry spells. This dependence shows a big long-term problem that goes beyond just how much water can be pumped now.

3.2 Backup Water Supply: Connection with Clark Public Utilities

To make sure water supply is steady and to have a backup, the City of Ridgefield has a key extra water source through a deal with Clark Public Utilities (CPU).¹ This connection lets Ridgefield add to its own ground water supply, especially when a lot of water is needed, during system repairs, or in emergencies. While the exact daily

amount of water from this deal is not given in the available information ⁸, its presence shows smart planning for possible supply problems or higher demand. Clark Public Utilities, in turn, uses a pricing system for its water bills that charges more for higher use, a system made to help people save water, which fits with Ridgefield's own water saving plans.¹⁰ Having this backup supply is a very important layer of safety, helping Ridgefield manage changes in its main supply and keep water service levels good.

3.3 Water Storage and Pipes

Ridgefield's water pipe system is large, with about 62 miles of pipes that carry water all over the city.¹ Water is stored in three large tanks that can hold a total of 2 million gallons (MG).¹ These include one 600,000-gallon tank, one 400,000-gallon tank, and one 1.0 million-gallon tank.¹ The tallest of these tanks, at Ridgefield High School, is very important for keeping water pressure steady throughout the pipe system, making sure homes and businesses get enough water.¹³ Managing this storage and pipe system well is most important for keeping water clean and having enough pressure, especially when many people use water at the same time.¹

3.4 Water Cleaning Steps and Quality Checks

The City of Ridgefield is set on giving safe and good drinking water. The city chooses to add chlorine to its water using a 4% sodium hypochlorite solution, a process that kills bad germs and cleans the water.¹ Also, a filter plant is used to take out minerals, dealing with the naturally somewhat hard water (about 100 parts per million minerals) and silica (about 55 parts per million) found in the Troutdale aquifer water.¹

Ridgefield always reports that its water quality is better than both state and federal rules.¹ The city regularly tests for many possible bad things, including radioactive, living, non-living, gas-forming, and man-made substances, as well as bug and plant killers. Based on these full tests, no bad things were found, showing that Ridgefield's water is safe.¹

Beyond cleaning, the city has a strong Cross-Connection Control Program. This program needs yearly checks of devices that stop water from flowing backward for places with underground watering systems.¹ This step is key to stopping possible bad things from homes and businesses from getting into the clean drinking water supply,

thus keeping the whole drinking water system safe.¹

The fact that water quality is always reported as better than state and federal rules shows a key point: Ridgefield's current water problem is about *how much* water there is (supply versus need), not *how good* the water is.¹ This is important for keeping people's trust and correctly saying what kind of water problems the community faces.

Table 2: Ridgefield Municipal Water System Overview

<u>Feature</u>	<u>Description / Value</u>
Primary Water Source	Groundwater wells
Number of Active Wells	6 (5 at Abrams Park, 1 at S 56th Place)
Aquifer Name	Troutdale aquifer
Aquifer Depth	130 - 170 feet below ground surface
Well Production Capacity	Over 2 million gallons per day (MGD)
Backup Water Source	Purchase agreement with Clark Public Utilities (CPU)
Total Reservoir Storage Capacity	2 million gallons (MG)
Number of Reservoirs	3 (600k gal, 400k gal, 1.0M gal)
Length of Distribution Lines	Approximately 62 miles
Water Treatment Processes	Voluntary chlorination (4% sodium hypochlorite), mineral filtration
Water Hardness	Moderately hard (avg. 100 ppm), contains 55 ppm silica
Water Quality Compliance	Consistently exceeds state and federal standards

4. Water Need: How Water is Used and Growth Pressures

4.1 Home Water Use: Normal vs. Peak Times

Knowing how water is used is vital for managing supply. The average Ridgefield family

uses about 200 gallons of water each day.¹ However, this average is much lower than the stress on the system during times of high use. Peak water use can jump to over 500 gallons per day, mostly because of watering plants and lawns.¹ The time when most water is used in Ridgefield is in the morning, from 4 AM to 11 AM.¹³ This shows that outdoor water use, especially for watering during dry times, puts the most stress on the water system. Because of this, watering is a key area for saving water, which explains why the city's water saving plan focuses a lot on managing watering times.

The city measures water use in Equivalent Residential Units (ERU). In 2024, the average daily water use per ERU was 201 gallons, which is about 4.7% less than the 211 gallons per ERU in 2023.² An ERU for water use in Washington State usually means 800 cubic feet of water used each month by a single home.¹⁵ (For example, 1 CCF, or 100 cubic feet, is 748 gallons¹⁰).

4.2 How Ridgefield's Fast Growth Affects Water Needs

Ridgefield has seen a huge increase in people over the last twenty years, which directly means more water is needed and puts a lot of stress on the city's water system.¹⁷ The changes in population are clear:

- In 2000, there were 2,147 people.
- By 2010, it had grown to 4,763 people, a 121.8% rise from 2000.
- The 2020 count showed 10,319 people, another 116.6% rise from 2010.
- As of 2023, the estimated number of people reached 15,027, a 45.6% rise from 2020.¹⁷

This very fast growth is expected to keep going. A 2020 report about the wastewater treatment plant (WWTP) said that the population was expected to grow to 25,494, a big jump from the 6,875 people served at that time.¹⁸ While this number is for wastewater, it shows the overall growth in people that affects all city services, including the need for drinking water.

The fast growth in people is the main long-term reason for more water being needed. While saving water can lower how much each person uses, the simple increase in the number of people will always strain the current systems and require big increases in capacity. This means that the current water problems are not just about short dry spells or wasting water, but a basic problem caused by fast city growth. The city's

plans must always change to meet this growing need.

A strange point about Ridgefield's water management is that it has saved water well, but still has a shortage. The city has cut down average daily water use per ERU by 4.7% from 2023 to 2024 ², showing that its efforts to use water wisely are working. But even with this success, the city still has a shortage and has put Stage 3 of its water saving plan into action.¹³ This situation suggests that while saving water is good and needed for managing demand, it alone cannot fully make up for the combined pressures of fast population growth and dry weather in the area. The cut in water use per unit is a good result, but the total need keeps going up because more people are using water, while the total supply is limited by nature. So, saving water is a key tool, but it is not the only answer, showing that the water problem has many sides.

Table 3: Ridgefield Water Demand and Population Growth

Metric	Value	Source
Population Growth		
2000 Population	2,147	17
2010 Population	4,763 (+121.8%)	17
2020 Population	10,319 (+116.6%)	17
2023 (estimated) Population	15,027 (+45.6%)	17
Projected Population (from 2020 WWTP report)	25,494	18
Water Usage		
Average Residential Water Usage	200 gallons/day	1
Peak Residential Water Usage (due to irrigation)	Over 500 gallons/day	1
Peak Water Use Period	4 AM - 11 AM	13
Average Daily Water	211 gallons	2

Consumption per ERU (2023)		
Average Daily Water Consumption per ERU (2024)	201 gallons (4.7% reduction)	2
Annual Water Consumption Reduction Goal	1% per year for 10 years	2
ERU Definition (Washington State)	800 cubic feet of metered water usage per month	15
1 CCF (100 cubic feet)	748 gallons	10

5. Smart Planning and Active Management for Water Safety

5.1 The City's New Water System Plan (WSP)

Ridgefield has been active in planning for its water, finishing an updated Water System Plan (WSP) by the end of 2023.¹ This WSP is a shared document that looks at the city's current water system and its ability to meet present and future state and federal rules for key parts of water management. These parts include finding water sources, keeping water clean, moving water well, and having enough storage.¹⁹

The updated WSP looks to the future, including suggested system improvements and changes to how things are run, made to meet expected water needs and future rules. It also plans for fixing and replacing old parts of the system to keep it working well.¹⁹ Beyond physical parts, the plan talks about important daily tasks like emergency plans, ongoing water quality checks, regular system upkeep, careful record keeping, strong cross-connection control programs, and ways to protect ground water sources.¹⁹ A big new part of the WSP is a section on how to deal with climate changes, as required by a 2023 state law.²⁰ This addition directly links local water planning to bigger environmental problems, knowing that the city needs to adjust to changing weather and its effect on water availability. A main goal of the WSP is to make water use efficiency goals better and find clear steps to save even more water across the system.¹ This full WSP shows a strong plan for managing the city's water as it grows and as the environment changes.

5.2 Water Saving Plan: Steps, What's Required, and What's Asked

To deal with changing water needs and weather, Ridgefield has put in place a Water Conservation Strategy.¹³ This plan has five clear steps, with rules getting stricter based on how much water is needed, and is made to help save water during busy times, when the system is down, or in emergencies.¹³ As of June 2025, the city is in Stage 3 of this plan, a needed step because summer started early and forecasts say it will be warmer than usual.¹³ This multi-step water saving plan shows the city's ability to change with conditions and its promise to actively manage demand.

Under Stage 3, all water users, including homes, homeowner groups (HOAs), and businesses, must make big changes to how they use water.¹³ Key required actions include:

- Watering lawns is allowed only three times a week, following an Odd/Even schedule, and only at night (7 PM - 4 AM).¹³ This rule directly aims at the high water use caused by watering.
- Pools, spas, and decorative fountains or ponds can only be used if they have pumps that move water around.¹³
- Filling swimming pools or man-made lakes/ponds/streams is not allowed.¹³
- Hoses that run freely must have automatic shut-off devices, like timers.¹³
- Washing cars at home is not allowed.¹³
- All water leaks must be found and fixed right away.¹³

At the same time, the city itself takes many steps to save water. These include watering city-owned places only twice a week, giving out permits for temporary water use from fire hydrants only for public health and safety, putting off water-heavy repairs when possible, and not washing city vehicles.¹³

Beyond these specific actions, the city promotes saving water through its tiered pricing, which makes using less water cheaper by raising the cost per unit as more water is used.¹ Ridgefield has also set a clear goal to cut down average daily water use by 1 percent each year for the next 10 years.² These efforts together aim to manage demand and make sure there is enough water for a long time.

5.3 Key Building Projects: More Capacity for Future Needs

To deal with the growing need for water due to fast population growth, Ridgefield is

actively working on big building projects to make its water storage and pipe system larger. One very important project is the **Eastside Elevated Water Reservoir**.²² This plan involves designing and building a new tall water storage tank on the east side of Interstate 5 in Ridgefield.²²

The new Eastside Elevated Water Reservoir is planned to hold about 2.5 million gallons (MG).²² This added storage is expected to provide enough water for current and future needs for at least the next 15-20 years, specifically for the eastern part of the city.²² The project is now in the design stage, which is expected to last until Fall 2025, with building expected to start in Summer 2025 and finish by Spring 2027.²² Also, a plan is being made for a second water tank in the far future, showing a step-by-step way to add more capacity.²² When done, this reservoir will not only add storage but also keep water pressure steady and efficient across the service area.²²

Building new projects, like the Eastside Elevated Water Reservoir, is a direct and needed response to the combined pressures of population growth and the need for better water safety. These projects are key to making sure the city's water system can meet the growing needs of its expanding community and keep service steady, especially during times of high use or environmental stress.

6. Conclusion

Ridgefield, Washington, is facing a water shortage that, while at first confusing to some, is a clear result of natural and population pressures coming together. The study shows that the current situation does not mean the water quality is bad; it always meets or is better than federal and state rules. Instead, it is a problem of managing *how much* water there is against growing needs and less natural supply.

The wider situation of a declared dry spell across Washington State, along with less rain in the past and less snow on mountains, directly affects Ridgefield's main ground water source, the Troutdale aquifer. This reliance on ground water, which refills slower than surface water, makes the city open to long-term problems, even though its wells currently produce over 2 million gallons each day.

At the same time, Ridgefield's very fast population growth, with the number of people more than tripling in the last twenty years, is the main reason for more water being needed. While the city has done well in cutting down water use per home through

saving efforts, the simple increase in the number of users means that total demand keeps going up. This creates a hard situation where saving water, while very important, cannot fully make up for the combined effects of population growth and environmental stress.

In response, Ridgefield has shown smart and active water management. The recently updated Water System Plan (WSP) gives a full guide for dealing with future needs, including how to handle climate changes and finding ways to make the system better. The multi-step Water Conservation Strategy, now in Stage 3, sets clear rules to lower peak demand, especially from watering, which is a big stressor. Also, the city is putting money into key building projects, like the Eastside Elevated Water Reservoir, to add more storage and make the system more reliable for its growing eastern part.

In short, the idea of a water shortage in Ridgefield is a complex issue coming from dry weather in the area, the natural weakness of a system that relies on ground water, and very fast population growth. The city's plans and checks are strong, shown by full strategic papers, changing water saving steps, and specific building investments. These active steps are key to balancing the water system's ability with the growing need, making sure Ridgefield's city water supply is safe and lasts a long time.

Works cited

1. Water Quality Report 2022 - City of Ridgefield, accessed June 29, 2025, <https://www.ridgefieldwa.us/Archive.aspx?ADID=125>
2. Water Service | Ridgefield, WA, accessed June 29, 2025, <https://ridgefieldwa.us/225/Water-Service>
3. News Flash • Water Quality in City of Ridgefield, accessed June 29, 2025, <https://www.ridgefieldwa.us/CivicAlerts.asp?AID=102>
4. Local Ridgefield Water Quality Guide - HomeWater, accessed June 29, 2025, <https://www.homewater.com/water-quality/ridgefield-wa>
5. Statewide conditions - Washington State Department of Ecology - | WA.gov, accessed June 29, 2025, <https://ecology.wa.gov/water-shorelines/water-supply/water-availability/statewide-conditions>
6. Clark County Conditions - Drought.gov, accessed June 29, 2025, <https://www.drought.gov/states/washington/county/clark>
7. Columbia River Basin Long-term Water Supply and Demand Forecast - Washington State Department of Ecology, accessed June 29, 2025, <https://ecology.wa.gov/about-us/who-we-are/our-programs/office-of-columbia-river/office-of-columbia-river-legislative-reports/water-supply-demand-forecast>
8. Clark Public Utilities: Home, accessed June 29, 2025,

- <https://www.clarkpublicutilities.com/>
9. Manage Your Utility Account - Ridgefield, WA, accessed June 29, 2025, <https://ridgefieldwa.us/233/Manage-Your-Utility-Account>
 10. Water Service - Clark Public Utilities, accessed June 29, 2025, <https://www.clarkpublicutilities.com/business-customers/reduce-waste-in-your-business/water-service/>
 11. WATER VENDOR AGREEMENT - Clark Regional Wastewater District, accessed June 29, 2025, [https://www.crwwd.com/wp-content/uploads/bsk-pdf-manager/2021/12/WA-Water-Assistance-Agreement-CRWWD CPU-Signed-09_30_2021.pdf](https://www.crwwd.com/wp-content/uploads/bsk-pdf-manager/2021/12/WA-Water-Assistance-Agreement-CRWWD-CPU-Signed-09_30_2021.pdf)
 12. Current Electric and Water Rates - Clark Public Utilities, accessed June 29, 2025, <https://www.clarkpublicutilities.com/about-cpu/public-documents/current-electric-water-rates/>
 13. Ridgefield Adopts Water Conservation Strategy as a Proactive Approach to Managing Water Demand, accessed June 29, 2025, <https://ridgefieldwa.us/CivicAlerts.asp?AID=171>
 14. Water Conservation | Ridgefield, WA, accessed June 29, 2025, <https://ridgefieldwa.us/292/Water-Conservation>
 15. FAQs • What is an Equivalent Residential Unit? - Spokane County, accessed June 29, 2025, <https://www.spokanecounty.org/FAQ.aspx?QID=375>
 16. Utility Billing - City of Vancouver, WA, accessed June 29, 2025, <https://www.cityofvancouver.us/services/utility-billing/>
 17. Ridgefield, Washington - Wikipedia, accessed June 29, 2025, https://en.wikipedia.org/wiki/Ridgefield,_Washington
 18. City of Ridgefield Wastewater Treatment Plant Permit No. WA0023272, accessed June 29, 2025, <https://apps.ecology.wa.gov/paris/DownloadDocument.aspx?id=353661>
 19. ridgefieldroundtable.org, accessed June 29, 2025, <https://ridgefieldroundtable.org/water-system-master-plan/documents>
 20. Water System Planning Requirements | Washington State Department of Health, accessed June 29, 2025, <https://doh.wa.gov/community-and-environment/drinking-water/water-system-design-and-planning/planning-requirements>
 21. Ridgefield, WA | Official Website, accessed June 29, 2025, <https://ridgefieldwa.us/>
 22. Eastside Elevated Water Reservoir - Ridgefield Roundtable, accessed June 29, 2025, <https://ridgefieldroundtable.org/eastside-reservoir>

Prepared by Thomas B. Cox using Gemini Deep Research

© 2025 Thomas B. Cox. All rights reserved.

Data based on publicly available reports from City of Ridgefield and Washington State Dept. of Ecology.

Last Updated: July 1, 2025

Page 14 of 15

Prepared using Gemini Deep Research - © 2025 Thomas B. Cox. All rights reserved.

Based on public data from City of Ridgefield and Washington State Dept. of Ecology.

Last Updated: July 1, 2025

